



Row after row of F-4 Phantom II jets line the storage area at Davis-Monthan. The jet, first flown in 1958, still serves the Air Force as training drones.



# STORED

*but not forgotten*

## COCOONED FLEET STILL HAS PLENTY TO GIVE

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PHOTOS BY TECH. SGT. JEFFREY WOLFE

**T**he last time the F-4 Phantom II with tail number 72-1489 screamed across the sky, Iraq invaded Kuwait to set off the Gulf War.

But the last 17 years have been lonely for the Phantom. Put out to pasture, so to speak, the old warhorse looked a bit mottled — its camouflage paint scheme accented with thick patches of a bright white latex covering that acts like a cocoon to keep out the elements and nesting birds.



The jet's home for all those years has been a huge 2,600-acres desert expanse at Davis-Monthan Air Force Base, Ariz. — home to thousands of aircraft since the end of World War II. Jack rabbits, coyotes, rattle snakes and Gila monsters make their home there, too, along with a fleet of 4,400 aircraft, 29 aerospace vehicles and other equipment worth a cool \$34 billion.

Most people know the storage area as the “bone yard.” Overseeing this storage operation is the 309th Aerospace Maintenance and Regeneration Group. Don Hookstra, the group's F-4 flight chief, said the term bone yard doesn't do the storage area justice and only focuses on a small part of the group's mission.

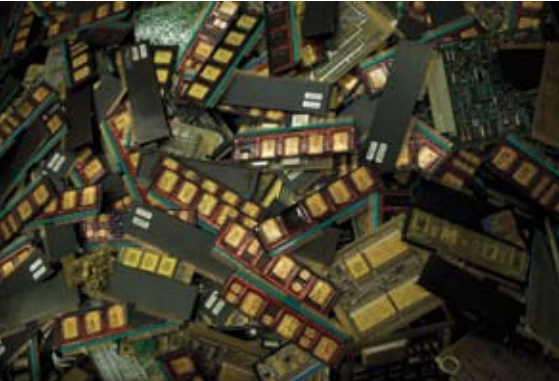
“When you use the term bone yard, everybody considers that to be a junk yard,” he said. “These aircraft are not junk.”



Preserved F-16 Fighting Falcons sit in neat rows under the blue Arizona sky. Visitors to the storage area can walk the grounds and view more than 4,400 aircraft, and might hear some of the aircraft creak and groan in the wind.



This flight of C-5 Galaxy transports, retired to Davis-Monthan's storage area, will never fly again. But maintainers will harvest their parts to keep the Air Force's aging transport fleet flying.



Some components, like this bin full of circuitry removed from different fighter jets, can't simply be tossed in the trash. Maintainers must ensure they're safe for disposal.

The Department of Defense doesn't think the aircraft are junk either. It sends aircraft to Davis-Monthan for storage because of the great environment there. When stored, the aircraft and equipment remain valuable DOD assets and still play an integral part in the performance of the Air Force mission, he said.

Such was the case with the old Phantom jet. After its long hiatus, group workers stripped off its white sheath, overhauled it and certified it flight worthy for its new job as a training drone.

Its new mission is to help the newest generation of Air Force pilots get the best and most realistic training possible, and to test weapons and equipment. But when it finishes its job, it won't return to storage. After a specified number of flying training hours, someone or something will shoot down the old bird.



Matthew Hamblin installs a bell crank in the confined space of an A-10 Thunderbolt II's tail section. Maintainers refurbish the ground-attack fighters, doubling their service life and keeping them on the front lines of the war on terrorism.



Davis-Monthan aircraft maintainers work on, under and around an F-4 Phantom II aircraft, beginning the nearly \$1 million process to refurbish, upgrade and ready the Phantom for its future role as a training drone.

Lt. Col. Jon Wendell is the group's director of flight testing. When the Phantom got the green light to fly again, he and his backseater, Rick Nelson, took it up and put it through its paces to make sure it was fit for duty. They didn't take it easy on the plane, taking it past the speed of sound and to a height of more than 48,000 feet — at least 10,000 feet higher than commercial airliners fly.

“This bird hasn't flown for a long time,” the colonel said. “Now we're going to take it up and let the big dog fly.”

Regeneration is the process of bringing old war systems back online, and is a group specialty.

In fact, the years were kind to the F-4 due, in part, to the storage techniques the group uses. The star treatment started as soon as the jet arrived in the desert. It received a thorough washing to ensure the Spraylat covering that would protect it would adhere to its skin.

Spraylat is a latex covering that protects aircraft from the elements. Two layers of black Spraylat go on first. Then it gets a reflective white coating to keep the heat down inside the aircraft. This ensures the temperature in the aircraft does not vary more than 10 degrees from the outside temperature, and keeps dirt and animals out of important components.

Before their hibernation, workers run aircraft engines while feeding them light oil. The oil coats moving parts, which helps them better weather their long storage.

And the storage area has optimal weather conditions for long-term aircraft storage. The low humidity keeps corrosion and other decay of aircraft and their components to a minimum. Another advantage is the layer of caliche soil under the storage area. About 18 inches thick, the soil has the consistency of concrete. This allows towing the heaviest aircraft across the ground without the need to build concrete parking ramps.

The weather conditions and storage procedures enable the aircraft to age gracefully, said Chris Excell, who works in the group's overhaul section.

“We have a great success rate with the aircraft we have here,” he

said. “Our desert environment enables us to (work on) pretty clean airplanes — though some of them have been out in storage for more than 15 years.”

Colonel Wendell said some people may scoff at spending the time and money on an aircraft that will eventually go down in flames during a training mission. But what people may not know is that the refurbished aircraft will provide a pilot or aircrew invaluable training.

“Computer simulations are great and they get better all the time,” the colonel said. “But nothing beats realistic, airplane-on-airplane training,” he said.

#### A different role

The Air Force doesn't just regenerate aircraft for training. Some end up back in the Air Force inventory or that of allied air forces.

“Customers are happy,” group commander Col. Tony Panek said. “Some countries have even remarked the aircraft they received from the group are in better condition than some of the ones they have in their own inventory,” the colonel said.

But not all aircraft at the yard will fly again. After arriving and in-processing, aircraft receive one of four storage codes — 1,000, 2,000, 3,000 or 4,000 — that determine its fate. A 1,000 aircraft is not eligible to donate parts and could fly again. Aircraft given a 2,000 designation are parts donors. The 3,000-code aircraft are there for temporary storage and kept flight ready. The 4,000-code aircraft are bound for disposal, but give up their parts first.

However, just because they won't fly, it doesn't diminish their importance to the Air Force mission, Colonel Panek said.

“Many aircraft in the Air Force inventory are so old that some of their parts are no longer manufactured. This leaves the group as the sole source for the parts,” the colonel said.

The 56-year-old B-52 Stratofortress and 52-year-old KC-135 Stratotanker, still Air Force workhorses in the war on terrorism, are also parts donors.



That's why the sealing process is so important. With no storage warehouses, the parts are stored on the aircraft.

The group — part of the 309th Maintenance Wing at the Ogden Air Logistics Center, Hill Air Force Base, Utah — receives requests for parts from across the DOD and a host of foreign nations. Teams of maintainers, many trained to work on many of the 70 different types of aircraft parked in the desert, then check the stock of planes to see if they can find the part. The process seems difficult, but the group maintains meticulous records for all the aircraft and parts.

The colonel said one highlight of his tenure at the group was helping a friend stationed overseas fighting the war on terrorism. A C-130 Hercules in the friend's squadron survived a hard landing, but received serious landing gear damage. To fix the transport, maintainers needed some hard-to-locate parts. Mechanics could not find the parts in stock anywhere.

The colonel's friend called to see if the yard had the parts available. Sure enough, a stored C-130 had the parts. Group maintainers removed the parts and shipped them within 24 hours.

"That's why the group is so important to the Air Force mission," Colonel Panek said. "Our main mission — and the reason we're here — is to support the warfighter any way that we can."

#### A different journey

Some aircraft may go to the group, not for storage, but to have work done so they can stay in the fight and perform their mission.

One of those aircraft is the A-10 Thunderbolt II, which made its Air Force debut at Davis-Monthan in the mid 1970s. Still on the job 30 years later, the aircraft's close-air support mission in Iraq and Afghanistan has placed an added burden on the jet, piling up its flight hours at an alarming rate, Colonel Panek said.

But the group has a fix for the Thunderbolt: The service life extension program. It literally doubles the life of the aircraft. The process involves removing the wings and doing preventative repairs throughout the canopy and in known trouble areas inside and outside the wings. It takes 160 days to give the jet its new life.

Once refurbished, the jet's flight hour ceiling increases from 10,000 to 20,000 hours. So the program has essentially doubled the A-10 inventory, said Earl Wade, the miscellaneous aircraft flight chief. He said his workers couldn't be more passionate about their support of warfighters.

"They see what is going on in the war on the evening news," he said. "And they see the link between what they do and what's going on in Iraq and Afghanistan. It helps to motivate us."

So it's no wonder group workers get defensive when someone refers to where they work as the bone yard — a place where old aircraft go to die. But that does happen — when stored aircraft finally give up all of their parts. Then the aircraft are ready for disposal.

Gregory Barnes, chief of the disposal flight, said visitors who see this portion of the cycle, at the end of the migration process, sometimes get a bit emotional.

"For a crew chief — or anybody who visits here — it can be very sad," Mr. Barnes said. These people "spent their whole career taking care of aircraft and keeping them in tip-top shape."

Seeing aircraft destroyed affects some people. But once visitors learn about the need for the migration process and the benefits "they make peace with the destruction," he said.

Over the years, the storage facility's mission has grown. It's no longer a place to just store and preserve aircraft. Its aircraft restoring processes has turned into big business. So has the depot-level maintenance, parts reclamation and aircraft disposition the group does.

"It's a lucrative business that saves DOD, Air Force and the air forces of a host of allied nations tons of money," Mr. Hookstra said.

"Instead of buying an aircraft for \$20 to 30 million," he said, "we can get one for \$1.5 million — savings that can go right back into the war effort." ✈



Hampton Garcia touches up an F-16 fighting Falcon with Spraylat protective sealer, preparing it for a long stay in the storage area.



Aircraft electrician Staff Sgt. Stephen McMullen works under the wing of an F-4 Phantom II, helping ready the jet for its return to duty as a training drone.